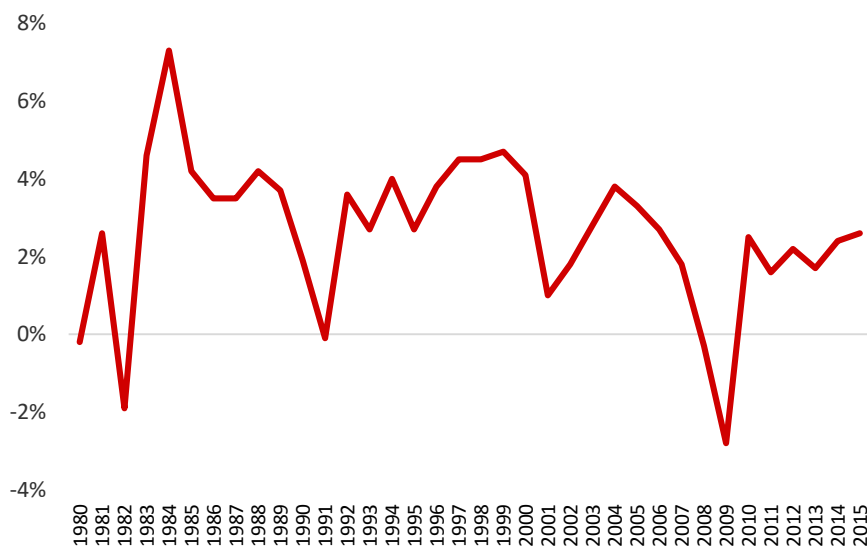


MARKET AND CAPACITY UPDATE

Matthew Marsh
September 2016

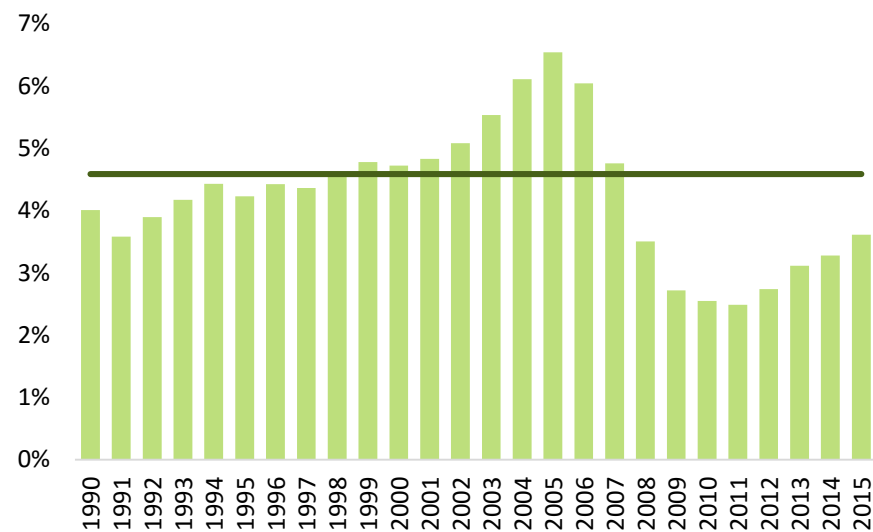
ECONOMY AND HOUSING SECTOR STABILIZING

GDP Growth



Source: Bureau of Economic Analysis

Residential Fixed Investment as a % of GDP

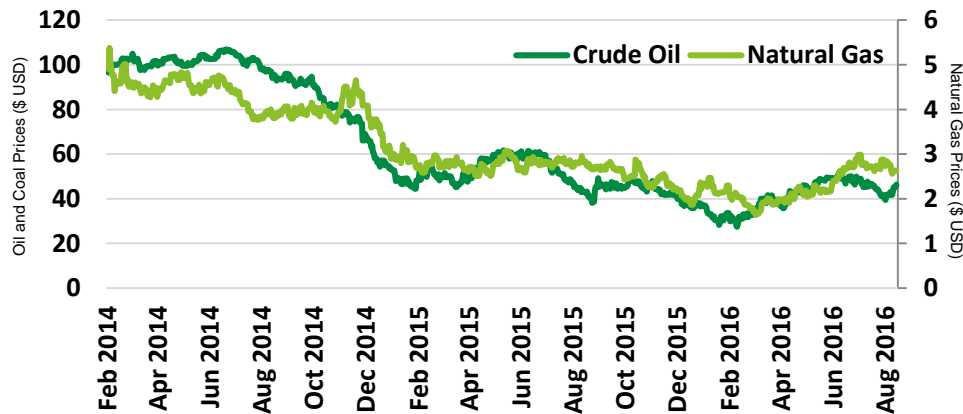


Source: JCHS tabulations of BEA, National Income and Product Accounts

Overall economy remains stable and housing is in slow but steady recovery

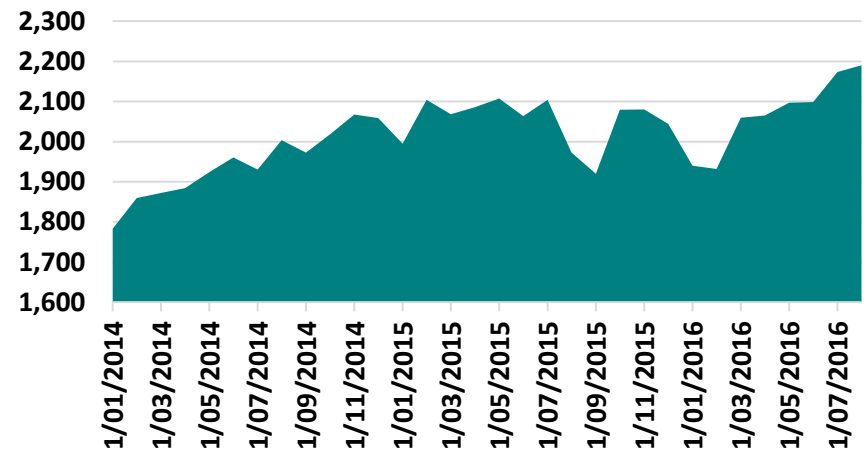
THOUGH SOME VOLATILITY REMAINS

Energy Commodity Pricing (\$USD)



Source: World Bank

S&P 500

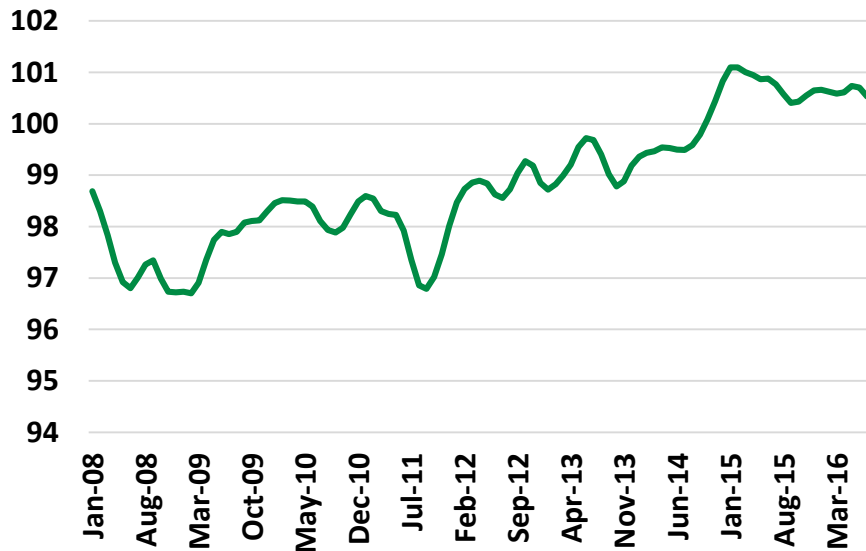


Source: Yahoo Finance

Commodity prices and equity markets have displayed volatility

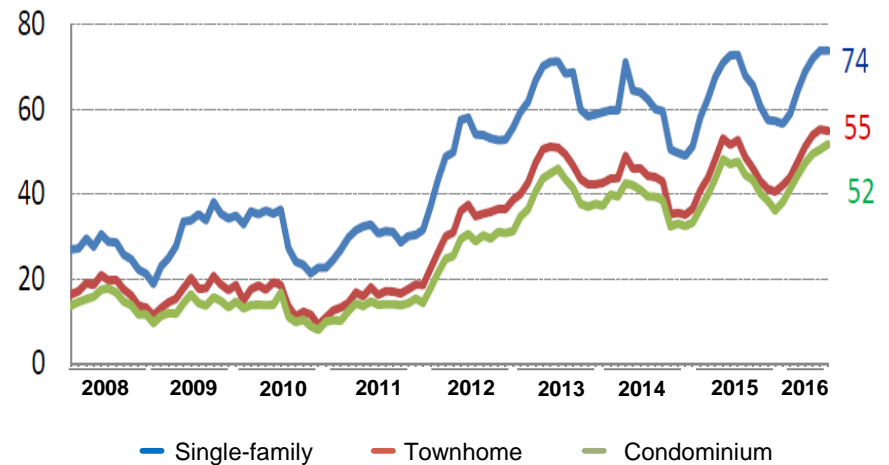
HOUSING CONFIDENCE REMAINS STRONG

Overall Consumer Confidence



Source: OECD August 2016, Confidence Index

Real Estate Confidence Index Current Conditions as of June 2016 (50="Moderate" Conditions)

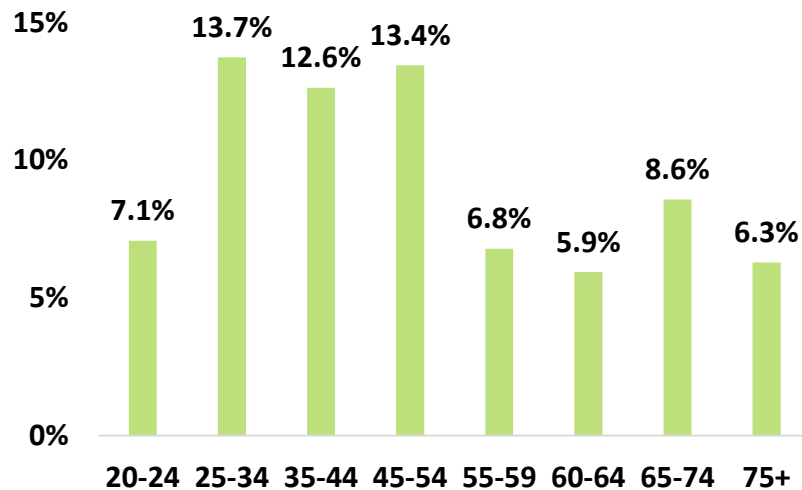


Source: Report on the June 2016 Survey, National Association of Realtors

Consumer and real estate confidence remain strong

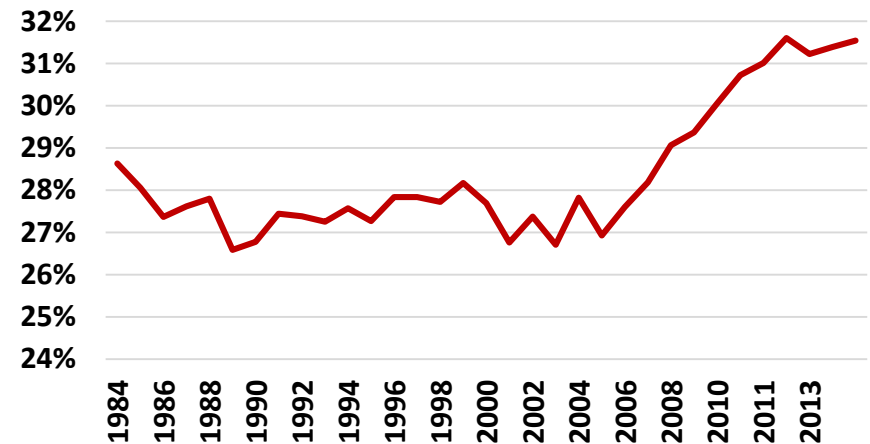
THE ELIGIBLE HOMEBUYER EXISTS

% of U.S. Population by Age, 2015



Source: U.S. Census Bureau

Percentage of 18-34 Year-Olds Living with Their Parents

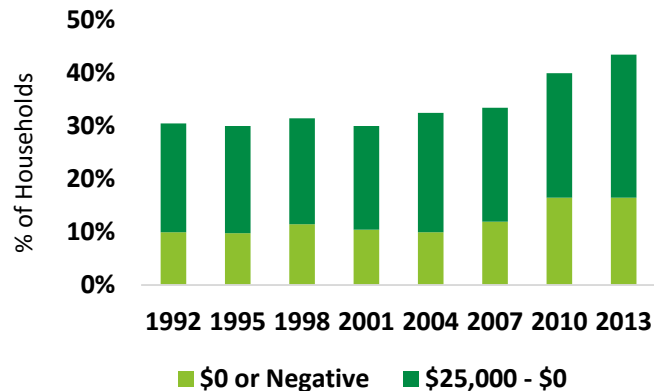


Source: U.S. Census Bureau

Millennial pent-up demand continues...
~20% of U.S. population between 20-34. ~30% living at home is historic high.

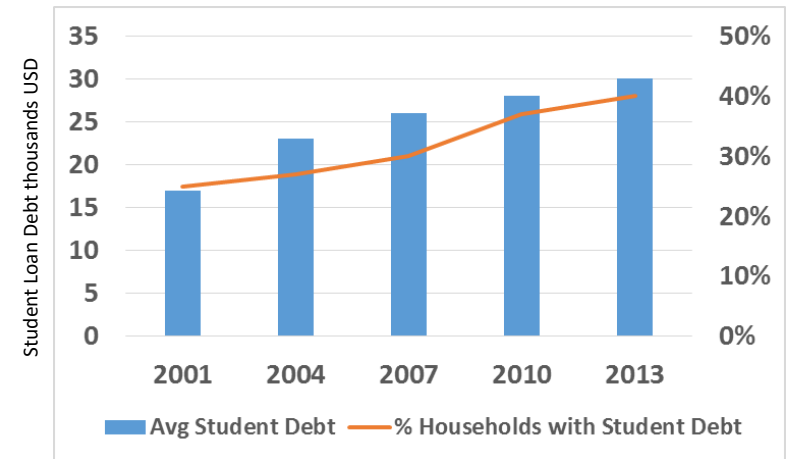
HOMEBUYER CHALLENGES

Households with Little or No Wealth



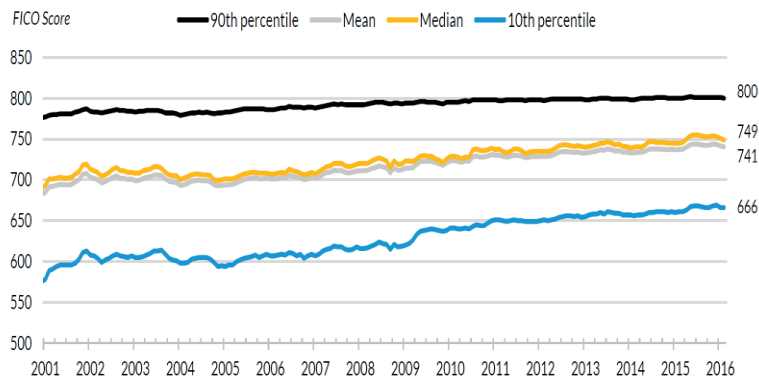
Source: JCHS Tabulation of US Federal Reserve Board of Governors, Survey of Consumer Finances

Student Loan Debt



Source: JCHS Tabulation of Federal Reserve Board

Borrower FICO Score at Origination



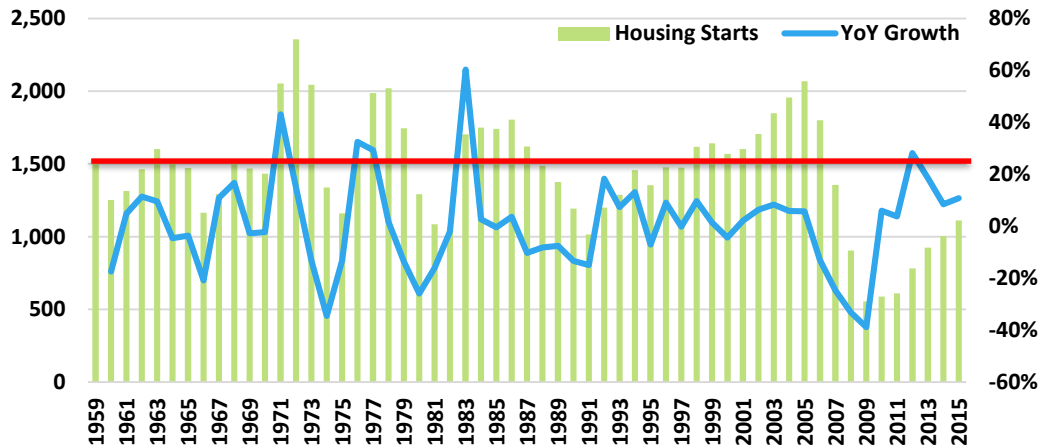
Sources: CoreLogic Servicing and Urban Institute, May 2016. Note: Purchase-only loans.

Challenges to home ownership remain:

- student loan debt
- lack of household wealth
- stricter financing standards

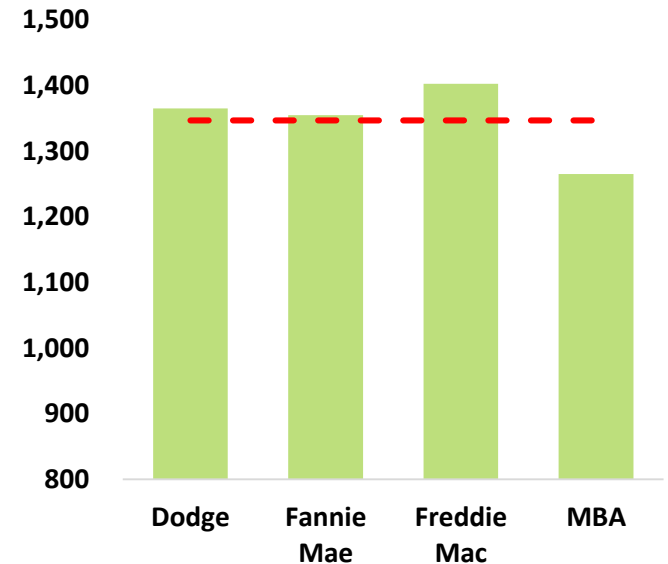
HOUSING RECOVERY SLOW BUT STEADY

Housing Starts



Source: U.S. Census Bureau

2017 Forecasted Housing Starts

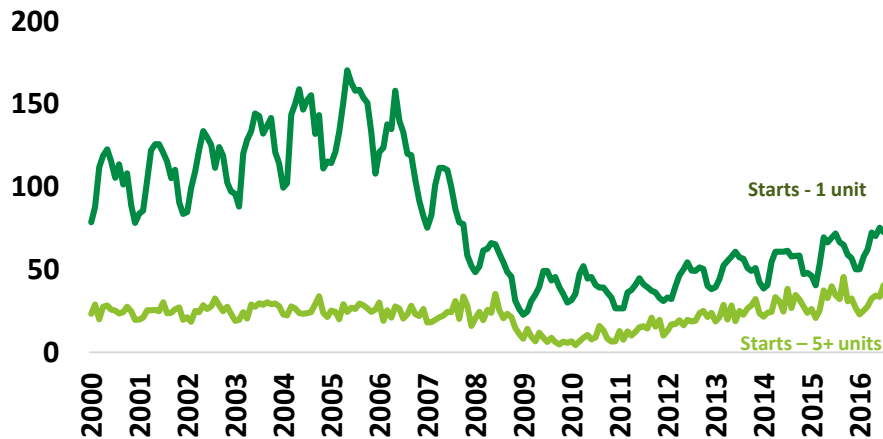


Source: Dodge, Fannie Mae, Freddie Mac and MBA

**Starts continue to trend below historic average of 1.5M per year.
Starts forecasted to be 1.2M in 2016 and 1.3M in 2017.**

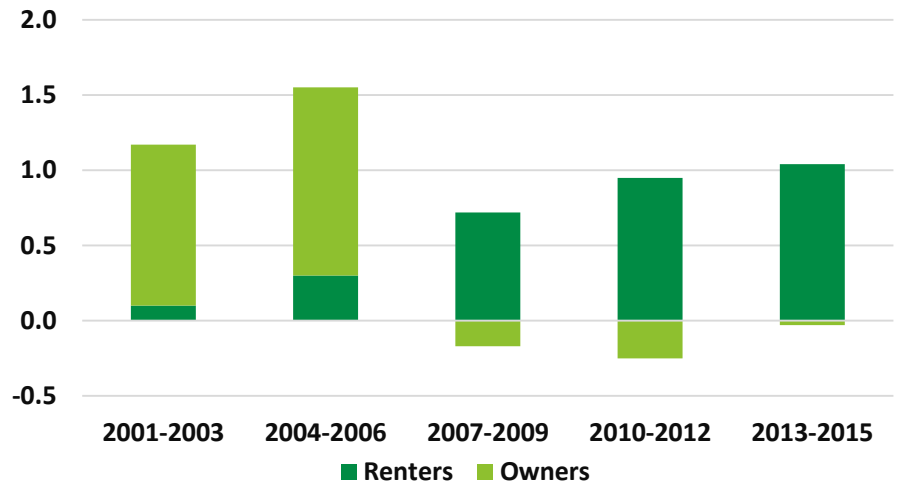
NEW CONSTRUCTION DYNAMICS

Housing Starts
000s Homes



Source: U.S. Census Bureau

Average Annual Growth – Rent vs. Own
(Millions of Households)



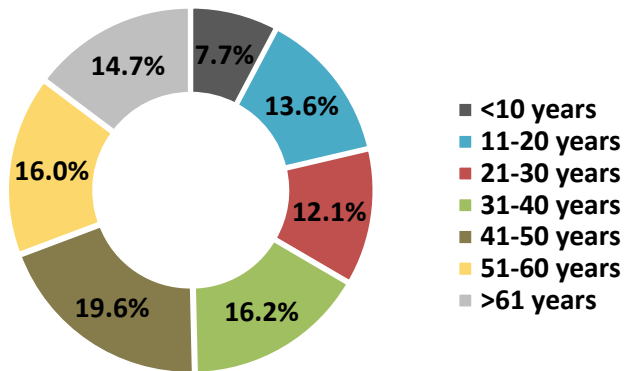
Source: JCHS tabulations of US Census Housing Vacancy Surveys

Multi-Family has outpaced Single-Family during the previous 5+ years, consistent with the shift towards rentals vs. home ownership.

2016 outlook indicates single-family to surpass multi-family growth.

REPAIR AND REMODEL DYNAMICS

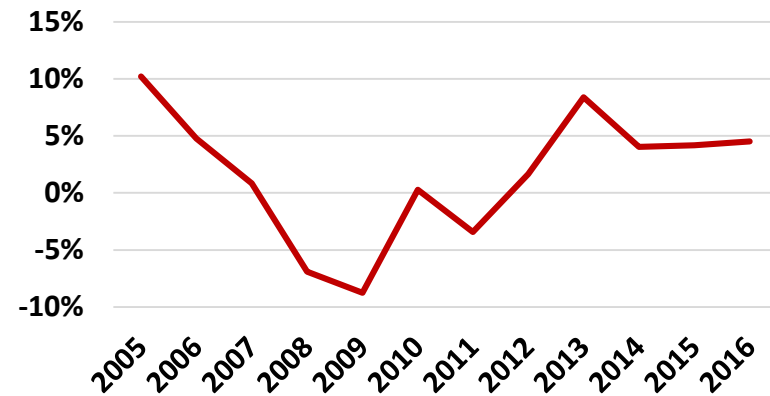
Age of Housing Stock



Average Age = 41 Years

Source: U.S. Census Bureau

Hanley Wood R&R Siding Project Growth

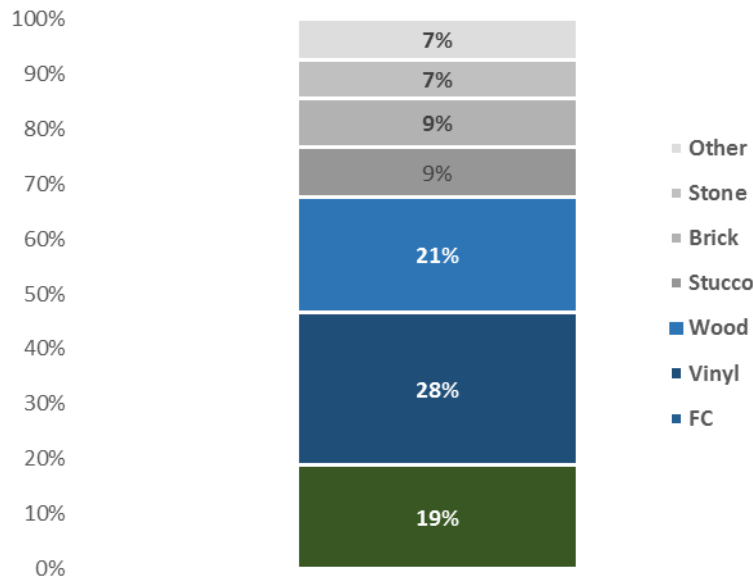


Source: Hanley Wood

The repair and remodel market continues to be a stable segment of growth

MARKET SHARE LANDSCAPE

North America Siding Market Share

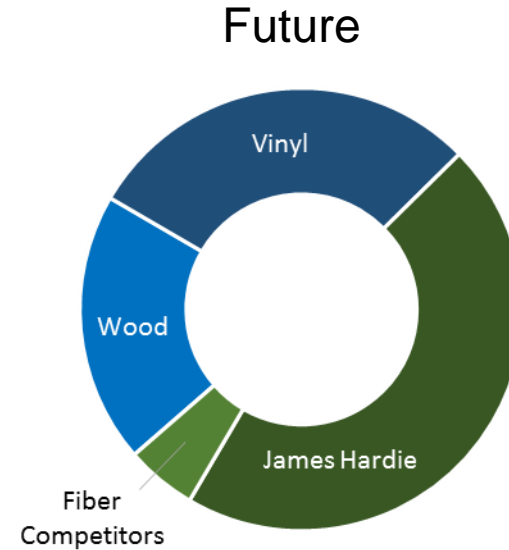
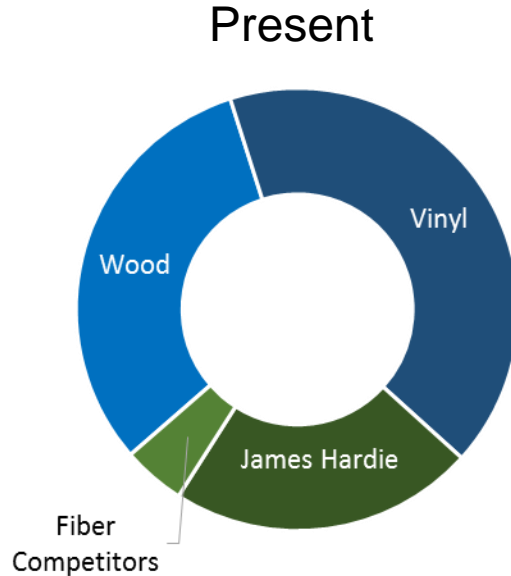


Source: Internal estimates based on NAHB product usage data adjusted for regional market intelligence

National Association of Homebuilders (NAHB) serves as our main source for market share measurement as it provides the following:

- Siding used in residential dwelling applications
- Square feet as unit of measurement
- Geographic detail allowing alignment to organizational structure
- Segmentation between single-family, multi-family and repair & remodel

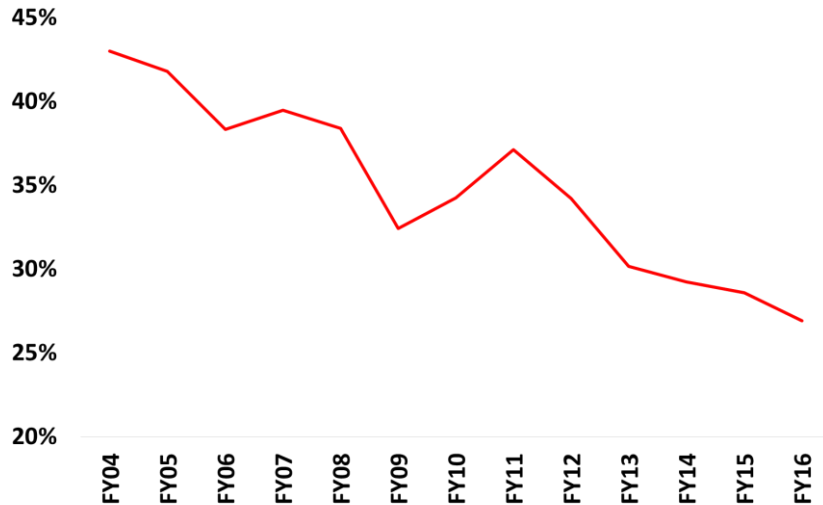
WOOD-LOOK SHARE OUTLOOK



Focus remains on gaining share in the wood-look market

WOOD-LOOK SHARE

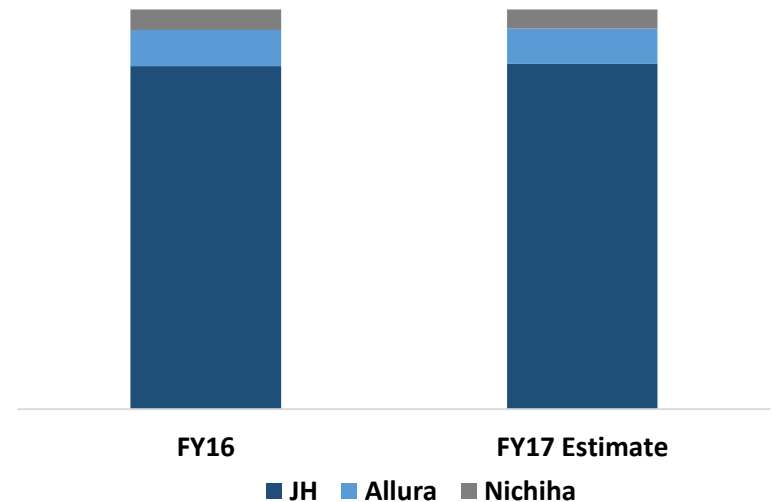
US Vinyl Market Share Estimate



Source: Internal estimates based on NAHB product usage data adjusted for regional market intelligence

- While vinyl continues to be the volume-leader in siding, market share continues to steadily decline.
- With the wood-look market maintaining 65-70% market share, vinyl's decline is the result of gains by fiber cement and wood.

Fiber Cement Category Market Share



- Competitive fiber cement plants ran at an estimated ~40% of capacity in 2015.
- Though competitors have available capacity, James Hardie remains the category leader.

CAPACITY

CAPACITY – ANNUAL DESIGN

Plant Location	Owned/Leased	Design Capacity (mmsf)
Cleburne, Texas	Owned	466
Incremental Capacity		200
Peru, Illinois	Owned	560
Plant City, Florida	Owned	300
Incremental Capacity		400
Pulaski, Virginia	Owned	600
Reno, Nevada	Owned	300
Tacoma, Washington	Owned	200
Waxahachie, Texas	Leased	360
Fontana, California	Owned	250
Summerville, SC	Owned	190
Total U.S. Network		~3,800

Historically, our disclosed capacity is based on running a standard 5/16th inch medium standard product:

- No accepted industry standard exists for the calculation of our fiber cement manufacturing facility design and utilization capacities
- Based on management's historical experience with our production process
- Good at standardizing capacity additions for comparative purposes
- Not reflective of actual capacity based on product mix, which is impacted by product size, thickness, and density

To evaluate capacity, utilization levels, and when incremental capacity will be needed, capacity utilization is determined by using machine hours

CAPACITY – GROSS HOURS

Capacity Utilization Determined by Machine
Hours of Active Capacity



Active Capacity	% Utilization
Cleburne, Texas	91%
Peru, Illinois	
Plant City, Florida	
Pulaski, Virginia	
Reno, Nevada	
Tacoma, Washington	
Waxahachie, Texas	
Fontana, California	
Idle Capacity	
Cleburne, Texas	New
Plant City, Florida	New
Summerville, SC	Idle

91% utilization based on total active available hours as of 1Q17

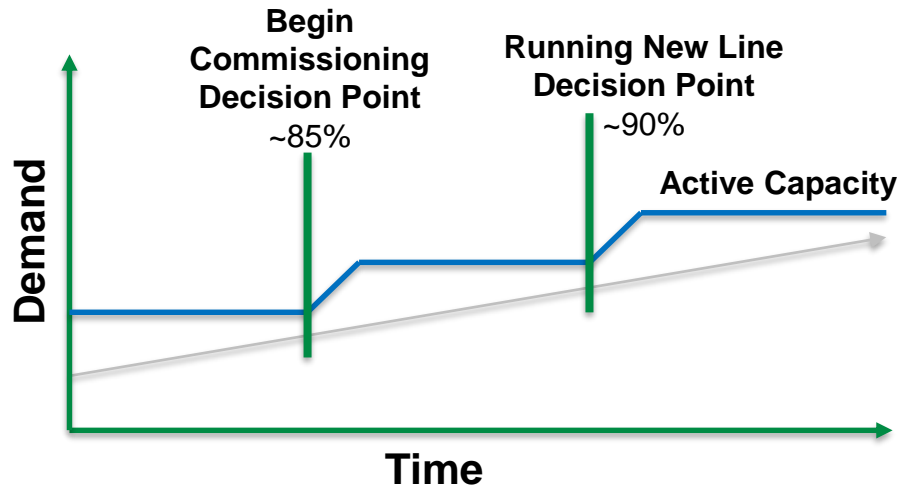
CAPACITY CORE CONCEPTS

CORE CONCEPTS OF MANUFACTURING CAPACITY

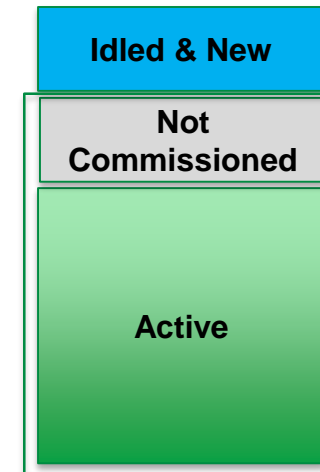
- ➡ Enable 35/90 by ensuring market supply ahead of demand
- ➡ Commission new capacity to optimize network costs
- ➡ Invest in capacity that maximizes value creation
- ➡ Use triggers to serve as leading indicators for capacity expansion

SHORT-TERM CAPACITY MANAGEMENT

Utilization Trigger Concept



Capacity Category



Complexity of capacity add will influence actual trigger point timing

CURRENT CAPACITY PROJECTS

	Anticipated Commission	Design Capacity in mmsf
Plant City #4	2Q FY17	300
Cleburne #3	3Q FY17	200
Plant City #3	4Q FY17	100
Summerville	1Q FY18	190

**Additional “active” capacity
of ~790 mmsf***

Plant City Sheet Machine #4

- Performance ramp up on target
- Excellent material yield result to date
- Minimal impact to existing plant operations

Cleburne Sheet Machine #3

- Project started in FY14; put on hold in FY16
- Construction in progress; on track to commission in 3Q FY17

Plant City Sheet Machine #3

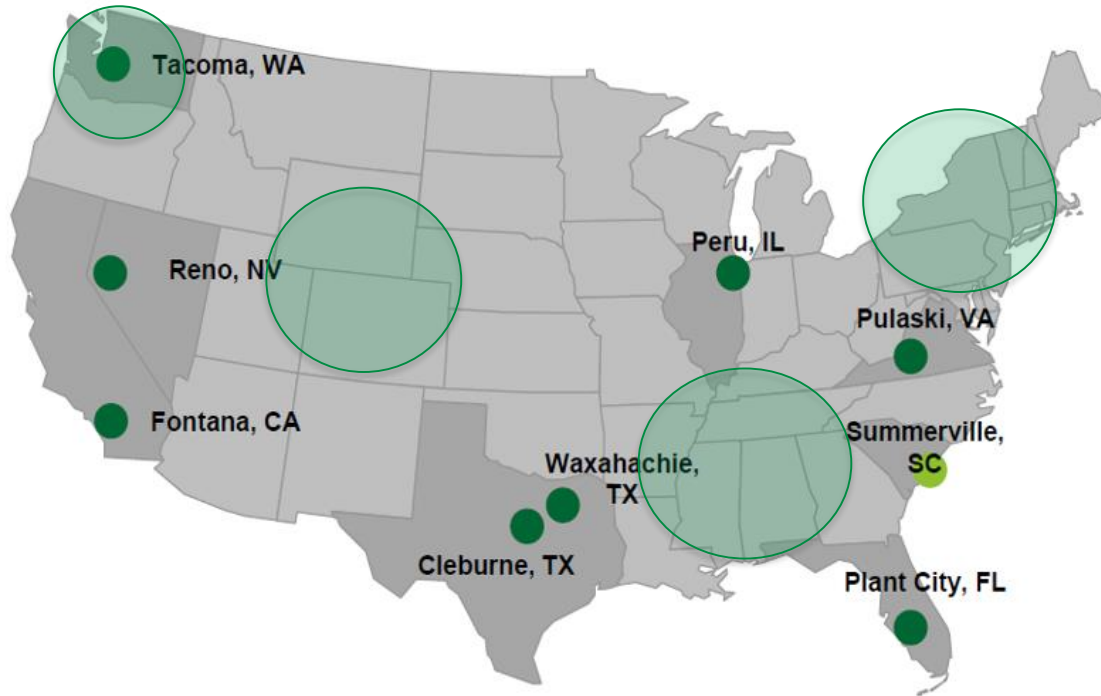
- Capacity idled in 2Q FY15
- Line will serve as flex capacity based on demand

Summerville

- Capacity idled in FY10
- Construction to begin 3Q FY17

**Capacity on this slide is already included in the Annual Design*

GREENFIELD CAPACITY CONCEPTS



- **Greenfield construction anticipated in 2-3 years**
- **Potential locations**
 - Pacific Northwest
 - Midsouth
 - Northeast
 - West
- **Decision drivers**
 - Demand
 - Proximity to raw materials
 - Total cost to operate

GREENFIELD CAPACITY CONCEPTS

Design new capacity that optimizes returns of the entire network

- **Line location and size determination**
- **Product & process capability selection**
- **Value engineering and line optimization**

Current cost estimates for next greenfield site range between \$70MM-\$120MM

Cost to build increasing faster than margin growth, dampening returns

Assessing opportunities to reduce construction costs through value engineering

SUMMARY

- US housing market continues down path of recovery, though at a slower than historical rate.
- James Hardie remains focused on market position, including share growth in the wood-look category.
- Capacity core concepts remain guiding principles of investment decision-making.